Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

What is claimed is:

1. (currently amended) A system for communicating data signals using a spread spectrum cellular network, comprising:

a plurality of base stations coupled to the cellular network, each base station of the plurality of base stations including means for transmitting a pilot signal sequence; and

a mobile unit coupled to the cellular network and assigned to one of the plurality of base stations (active base station), the mobile unit including:

a) means for receiving a signal of another of the plurality of base stations (target base station); and

b) means for determining an ~~the~~ interference density to the target base station from the received signal including:

i) means for selecting a code sequence that is at least quasi-orthogonal to all Orthogonal code sequences currently employed by the target base station,

ii) means for synchronizing ~~an~~ the selected Orthogonal code sequence with an ~~the~~ Orthogonal code sequence boundary of the target base station's pilot sequence,

ii) means for correlating the received signal with a corresponding P/N sequence of the target base station and also with the selected Orthogonal code sequence, and

iii) means for determining an energy of the target P/N correlated, selected code correlated received signal.

2. (canceled)

3. (currently amended) The system of claim 1 ~~2~~, wherein the selected Orthogonal code sequence is a Walsh code sequence.

4. (original) The system of claim 3, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

5. (currently amended) The system of claim 4, wherein the ~~means for determining the interference density further includes means for selecting a code sequence that is at least quasi orthogonal to the Orthogonal code sequences currently employed by the target base station where the~~ selected Orthogonal code sequence is comprised of a repetition of a code sequence that is orthogonal to other code sequences currently employed by the target base station and the length of the selected code is an integer multiple of the longest Orthogonal code sequences currently employed by the target base station.

6. (currently amended) The system of claim 1, wherein the means for synchronizing the selected Orthogonal code sequence includes:

A. ~~a.~~ means for determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ means for determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

7. (currently amended) The system of claim 4, the mobile unit further comprising means for determining a ~~the~~ power of the received target base station's pilot signal sequence.

8. (currently amended) The system of claim 7, the mobile unit further comprising means for providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.

9. (currently amended) The system of claim 1, wherein the means for determining the interference density includes:

means for correlating the received signal with a corresponding P/N sequence of the target base station;

means for correlating a pilot Orthogonal code sequence with the target base station's P/N correlated signal; and

means for determining a ~~the~~ power of the target base station's P/N correlated signal~~; and~~

~~means for determining the energy of the Orthogonally correlated, P/N correlated, received signal~~.

10. (currently amended) The system of claim 9, wherein the pilot Orthogonal code sequence is a Walsh code sequence.

11. (original) The system of claim 10, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

12. (currently amended) The system of claim 11, wherein the means for synchronizing the pilot Orthogonal code sequence includes:

A. ~~a.~~ means for determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ means for determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

13. (currently amended) The system of claim 12, the mobile unit further comprising means for providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.

14. (currently amended) A mobile unit for communicating data signals using a spread spectrum cellular network, the cellular network including a plurality of base stations coupled to the cellular network and the mobile unit ~~is~~ being assigned to one of the plurality of base stations (active base station), the mobile unit comprising:

a) means for receiving a signal of another of the plurality of base stations (target base station); and

b) means for determining an ~~the~~ interference density to the target base station from the received signal including

i) means for selecting a code sequence that is at least quasi-orthogonal to all Orthogonal code sequences currently employed by the target base station,

ii) means for synchronizing ~~an~~ the selected Orthogonal code sequence with an ~~the~~ Orthogonal code sequence boundary of the target base station's pilot sequence,

ii) means for correlating the received signal with a corresponding P/N sequence of the target base station and also with the selected Orthogonal code sequence, and

iii) means for determining an energy of the target P/N correlated, selected code correlated received signal.

15. (canceled)

16. (currently amended) The mobile unit of claim 14 ~~15~~, wherein the selected Orthogonal code sequence is a Walsh code sequence.

17. (original) The mobile unit of claim 16, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

18. (currently amended) The mobile unit of claim 17, wherein the ~~means for determining the interference density further includes means for selecting a code sequence that is at least quasi-orthogonal to the Orthogonal code sequences currently employed by the target base station where the~~ selected Orthogonal code sequence is comprised of a repetition of a code sequence that is orthogonal to other code sequences currently employed by the target base station and the length of the selected code is an integer multiple of the longest Orthogonal code sequences currently employed by the target base station.

19. (currently amended) The mobile unit of claim 14, wherein the means for synchronizing the Orthogonal code sequence includes:

A. ~~a.~~ means for determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ means for determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

20. (currently amended) The mobile unit of claim 17, ~~the mobile unit~~ further comprising means for determining a ~~the~~ power of the received target base station's pilot signal sequence.

21. (currently amended) The mobile unit of claim 20, the mobile unit further comprising means for providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.

22. (currently amended) The mobile unit of claim 14, wherein the means for determining the interference density includes:

means for correlating the received signal with a corresponding P/N sequence of the target base station;

means for correlating a pilot Orthogonal code sequence with the target base station's P/N correlated signal; and

means for determining a ~~the~~ power of the target base station's P/N correlated signal~~; and~~

~~means for determining the energy of the Orthogonally correlated, P/N correlated, received signal~~.

23. (currently amended) The mobile unit of claim 22, wherein the pilot Orthogonal code sequence is a Walsh code sequence.

24. (original) The mobile unit of claim 23, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

25. (currently amended) The mobile unit of claim 24, wherein the means for synchronizing the pilot Orthogonal code sequence includes:

A. ~~a.~~ means for determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ means for determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

26. (currently amended) The mobile unit of claim 25, the mobile unit further comprising means for providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.

27. (currently amended) A method of communicating data signals using a spread spectrum cellular network, the cellular network including a plurality of base stations coupled to the cellular network and a mobile unit that is assigned to one of the plurality of base stations (active base station), the method comprising the steps of:

a) receiving a signal of another of the plurality of base stations (target base station); and

b) determining the interference density to the target base station from the received signal including ~~the step~~ steps of:

i) selecting a code sequence that is at least quasi-orthogonal to all Orthogonal code sequences currently employed by the target base station,

ii) synchronizing the selected ~~an~~ Orthogonal code sequence with an ~~the~~ Orthogonal code sequence boundary of the target base station's pilot sequence,

ii) correlating the received signal with a corresponding P/N sequence of the target base station and also with the selected Orthogonal code sequence, and

iii) determining an energy of the target P/N correlated, selected code correlated received signal.

28. (canceled)

29. (currently amended) The method of claim 27 ~~28~~, wherein the selected Orthogonal code sequence is a Walsh code sequence.

30. (original) The method of claim 29, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

31. (currently amended) The method of claim 30, wherein ~~the step of determining the interference density further includes the step of selecting a code sequence that is at least quasi-orthogonal to the Orthogonal code sequences currently employed by the target base station where~~ the selected Orthogonal code sequence is comprised of a repetition of a code sequence that is orthogonal to other code sequences currently employed by the target base station and the length of the selected code is an integer multiple of the longest Orthogonal code sequences currently employed by the target base station.

32. (currently amended) The method of claim 27, wherein the step of synchronizing the selected Orthogonal code sequence includes the steps of:

A. ~~a.~~ determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

33. (currently amended) The method of claim 30, further comprising the step of determining a ~~the~~ power of the received target base station's pilot signal sequence.

34. (currently amended) The method of claim 33, further comprising the step of providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.

35. (currently amended) The method of claim 27, wherein the step of determining the interference density includes the steps of:

correlating the received signal with a corresponding P/N sequence of the target base station;

correlating a pilot Orthogonal code sequence with the target base station's P/N correlated signal; and

determining a ~~the~~ power of the target base station's P/N correlated signal~~; and~~

~~determining the energy of the Orthogonally correlated, P/N correlated, received signal~~.

36. (currently amended) The method of claim 35, wherein the pilot Orthogonal code sequence is a Walsh code sequence.

37. (original) The method of claim 36, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

38. (currently amended) The method of claim 37, wherein the step of synchronizing the pilot Orthogonal code sequence includes the steps of:

A. ~~a.~~ determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

39. (currently amended) The method of claim 38, further comprising the step of providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.

40. (currently amended) An article of manufacture for use in a mobile unit communicating data signals using a spread spectrum cellular network, the cellular network including a plurality of base stations coupled to the cellular network and the mobile unit being ~~is~~ assigned to one of the plurality of base stations (active base station), the article of manufacture comprising computer readable storage media including program logic embedded therein that causes control circuitry to perform the steps of:

a) receiving a signal of another of the plurality of base stations (target base station); and

b) determining an ~~the~~ interference density to the target base station from the received signal including the ~~step~~ steps of:

i) selecting a code sequence that is at least quasi-orthogonal to all Orthogonal code sequences currently employed by the target base station,

ii) synchronizing the selected ~~an~~ Orthogonal code sequence with an ~~the~~ Orthogonal code sequence boundary of the target base station's pilot sequence,

ii) correlating the received signal with a corresponding P/N sequence of the target base station and also with the selected Orthogonal code sequence, and

iii) determining an energy of the target P/N correlated, selected code correlated received signal.

41. (canceled)

42. (currently amended) The article of manufacture of claim 40 ~~41~~, wherein the selected Orthogonal code sequence is a Walsh code sequence.

43. (original) The article of manufacture of claim 42, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

44. (currently amended) The article of manufacture of claim 43, wherein ~~the step of determining the interference density further includes the step of selecting a code sequence that is at least quasi-orthogonal to the Orthogonal code sequences currently employed by the target base station where~~ the selected Orthogonal code sequence is comprised of a repetition of a code sequence that is orthogonal to other code sequences currently employed by the target base station and the length of the selected code is an integer multiple of the longest Orthogonal code sequences currently employed by the target base station.

45. (currently amended) The article of manufacture of claim 40, wherein the step of synchronizing the selected Orthogonal code sequence includes the steps of:

A. ~~a.~~ determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

46. (currently amended) The article of manufacture of claim 43, the steps performed by the control circuitry under control of the embedded program logic further comprising the step of determining a ~~the~~ power of the received target base station's pilot signal sequence.

47. (currently amended) The article of manufacture of claim 46, the steps performed by the control circuitry under control of the embedded program logic further comprising the step of providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.

48. (currently amended) The article of manufacture of claim 40, wherein the step of determining the interference density includes the steps of:

correlating the received signal with a corresponding P/N sequence of the target base station;

correlating a pilot Orthogonal code sequence with the target base station's P/N correlated signal; and

determining a ~~the~~ power of the target base station's P/N correlated signal~~; and~~

~~determining the energy of the Orthogonally correlated, P/N correlated, received signal~~.

49. (currently amended) The article of manufacture of claim 48, wherein the pilot Orthogonal code sequence is a Walsh code sequence.

50. (original) The article of manufacture of claim 49, wherein the cellular network is a CDMA based network and each base station of the plurality of base stations represents a network cell.

51. (currently amended) The article of manufacture of claim 50, wherein the step of synchronizing the pilot Orthogonal code sequence includes the steps of:

A. ~~a.~~ determining an ~~the~~ Orthogonal code sequence boundary for the active base station's pilot signal; and

B. ~~b.~~ determining the Orthogonal code sequence boundary for the target base station's pilot signal from the determined active base station's pilot signal Orthogonal code sequence boundary.

52. (currently amended) The article of manufacture of claim 51, further comprising the step of providing a ~~the~~ ratio of the determined target base station's pilot signal power and interference density to the active base station.